An Evaluation of Medical Resource Utilisation in Patients with Autosomal Dominant Polycystic Kidney Disease in Europe


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INTRODUCTION

• Autosomal dominant polycystic kidney disease (ADPKD) is the most common type of primary kidney disease and is caused by mutations in at least two known genes, PKD-1 and PKD-2. It is the fourth-leading cause of end-stage renal disease (ESRD).
• Medical resource utilisation (MRU) and costs to chronic kidney disease (CKD) stages in ADPKD are not well quantified. In particular, MRU related to ADPKD prior to ESRD are largely unknown.
• The costs associated with medical care of ADPKD patients become substantial in later stages of the disease, which include costs related to dialysis and kidney transplantation. However, there is a little available information on MRU in patients with ADPKD in Europe.

OBJECTIVES

• The primary objective of this study was to characterise MRU among ADPKD subjects across all disease stages in routine clinical practice in Europe, the UK, Sweden, Spain, and Italy.
• Several objectives included describing demographic characteristics (e.g., gender, age, employment and marital status), and clinical characteristics (e.g., ADPKD-related complications).

METHODS

• This was a retrospective review of medical charts collected in an online physician survey. The physicians were recruited from France (n=67), Germany (n=70), the UK (n=67), Sweden (n=36, n=30, n=9), and Italy (n=18).
• Patient medical history data were collected from the medical charts of the last three eligible ADPKD patients treated in their practice, each within a different CKD stage.
• Subjects were analysed by disease stage, with disease stage subgroups defined by the National Kidney Foundation guidelines for CKD stages. In addition, other subgroups were also defined (E02A-related dialysis and E02A-related transplantation).
• The data analyses were largely descriptive. Pair-wise comparisons of the annual mean-number of MRU visits, rates of hospitalisations, and medication costs were also performed using a t-test. Descriptive summary statistics for categorical variables included frequency counts and percentages (n [%]).

RESULTS

Sample

• A total of 1,055 ADPKD subjects were enrolled in the study by 353 physicians.
• On average, the participating physicians had been practising for 17.8 years and personally treated an average of 6.2 ADPKD patients per 1,000 patient visits.
• The mean (SD) age of the patient sample was 54.4±14.4 years, 53% were male. Age generally increased with advancing disease stages. The sample population was comparable in terms of gender, employment status, and are based on the last assessment.

Clinical Characteristics

• Only 46% of subjects had a known PKD genotype, of which 58% had PKD-1 and 42% had PKD-2.
• Almost all subjects (99%) experienced at least 1 ADPKD-related complication, most commonly haematuria (96%), hypertension (94%), non-renal cysts (38%), non-renal obstructive disease (36%), upper UTI (31%), and nephrolithiasis (8%) appeared to be constant over the disease stage.
• The majority (55.4%) of subjects in the overall sample were employed, and most (67.2%) of patients with advanced disease were employed, with advancing disease stage, and increasing age within each stage, with the lowest employment rates in Stage 5 (19.1%) and E02A (30.1%) stages (Figure 1).

Medical Resource Utilisation

• Specific focus was placed on the care of ADPKD patients, with more than three-quarters (78.4%) of subjects in the sample having at least 1 nephrologist visit during the 24-month study period. On average, subjects had 2.9±2.3 annual specialist visits.
• In general, subjects in more advanced disease stages reported higher mean (SD) annual specialist visits and more disease-related hospitalisations. (Figure 2 and 3)

CONCLUSIONS

• This is the first study that provides evidence on MRU in ADPKD patients across Europe. The scope and findings provide an important step toward understanding the geographic, demographic and clinical characteristics of the survey population.